

Creative Problem Solving



Sample

Corporate Training Materials

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Preface

What is Courseware?



Welcome to Corporate Training Materials, a completely new training experience!

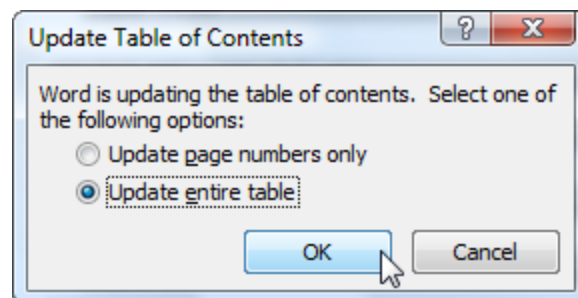
Our courseware packages offer you top-quality training materials that are customizable, user-friendly, educational, and fun. We provide your materials, materials for the student, PowerPoint slides, and a take-home reference sheet for the student. You simply need to prepare and train!

Best of all, our courseware packages are created in Microsoft Office and can be opened using any version of Word and PowerPoint. (Most other word processing and presentation programs support these formats, too.) This means that you can customize the content, add your logo, change the color scheme, and easily print and e-mail training materials.

How Do I Customize My Course?

Customizing your course is easy. To edit text, just click and type as you would with any document. This is particularly convenient if you want to add customized statistics for your region, special examples for your participants' industry, or additional information. You can, of course, also use all of your word processor's other features, including text formatting and editing tools (such as cutting and pasting).

To remove modules, simply select the text and press Delete on your keyboard. Then, navigate to the Table of Contents, right-click, and click Update Field. You may see a dialog box; if so, click "Update entire table" and press OK.

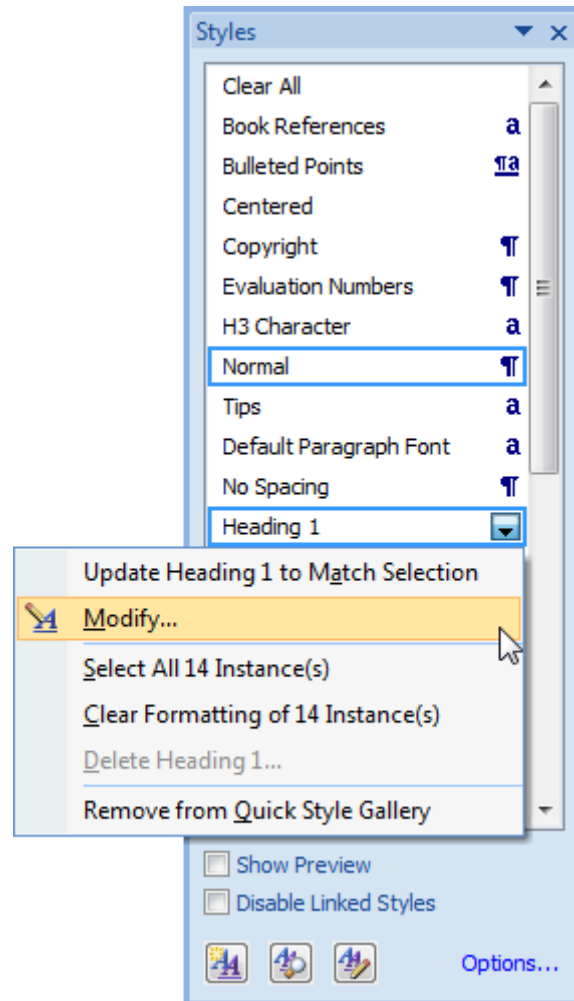


(You will also want to perform this step if you add modules or move them around.)

If you want to change the way text looks, you can format any piece of text any way you want. However, to make it easy, we have used styles so that you can update all the text at once.

If you are using Word 97 to 2003, start by clicking the Format menu followed by Styles and Formatting. In Word 2007 and 2010 under the Home tab, right-click on your chosen style and click Modify. That will then produce the Modify Style options window where you can set your preferred style options.

For example, if we wanted to change our Heading 1 style, used for Module Titles, this is what we would do:



Now, we can change our formatting and it will apply to all the headings in the document.

For more information on making Word work for you, please refer to [Word 2007 or 2010 Essentials](#) by Corporate Training Materials.

Materials Required

All of our courses use flip chart paper and markers extensively. (If you prefer, you can use a whiteboard or chalkboard instead.)

We recommend that each participant have a copy of the Training Manual, and that you review each module before training to ensure you have any special materials required. Worksheets and handouts are included within a separate activities folder and can be reproduced and used where indicated. If you would like to save paper, these worksheets are easily transferrable to a flip chart paper format, instead of having individual worksheets.

We recommend these additional materials for all workshops:

- Laptop with projector, for PowerPoint slides
- Quick Reference Sheets for students to take home
- Timer or watch (separate from your laptop)
- Masking tape
- Blank paper

Maximizing Your Training Power

We have just one more thing for you before you get started. Our company is built for trainers, by trainers, so we thought we would share some of our tips with you, to help you create an engaging, unforgettable experience for your participants.

- **Make it customized.** By tailoring each course to your participants, you will find that your results will increase a thousand-fold.
 - Use examples, case studies, and stories that are relevant to the group.
 - Identify whether your participants are strangers or whether they work together. Tailor your approach appropriately.
 - Different people learn in different ways, so use different types of activities to balance it all out. (For example, some people learn by reading, while others learn by talking about it, while still others need a hands-on approach. For more information, we suggest Experiential Learning by David Kolb.)
- **Make it fun and interactive.** Most people do not enjoy sitting and listening to someone else talk for hours at a time. Make use of the tips in this book and your own experience to keep your participants engaged. Mix up the activities to include individual work, small group work, large group discussions, and mini-lectures.
- **Make it relevant.** Participants are much more receptive to learning if they understand why they are learning it and how they can apply it in their daily lives. Most importantly, they want to know how it will benefit them and make their lives easier. Take every opportunity to tie what you are teaching back to real life.
- **Keep an open mind.** Many trainers find that they learn something each time they teach a workshop. If you go into a training session with that attitude, you will find that there can be an amazing two-way flow of information between the trainer and trainees. Enjoy it, learn from it, and make the most of it in your workshops.

And now, time for the training!

Icebreakers

Each course is provided with a wide range of interactive Icebreakers. The trainer can utilize an Icebreaker to help facilitate the beginning of the course, as it helps “break the ice” with the participants. If the participants are new to each other, an icebreaker is a great way to introduce everyone to each other. If the participants all know each other it can still help loosen up the room and begin the training session on positive note. Below you will see one of the icebreakers that can be utilized from the Icebreakers folder.

Icebreaker: Friends Indeed

Purpose

Have the participants moving around and help to make introductions to each other.

Materials Required

- Name card for each person
- Markers

Preparation

Have participants fill out their name card. Then, ask participants to stand in a circle, shoulder to shoulder. They should place their name card at their feet. Then they can take a step back. You as the facilitator should take the place in the center of the circle.

Activity

Explain that there is one less place than people in the group, as you are in the middle and will be participating. You will call out a statement that applies to you, and anyone to whom that statement applies must find another place in the circle.

Examples:

- Friends who have cats at home
- Friends who are wearing blue
- Friends who don't like ice cream

The odd person out must stand in the center and make a statement.

The rules:

- You cannot move immediately to your left or right, or back to your place.
- Let's be adults: no kicking, punching, body-checking, etc.

Play a few rounds until everyone has had a chance to move around.

Training Manual Sample

On the following pages is a sample module from our Training Manual. Each of our courses contains twelve modules with three to five lessons per module. It is in the same format and contains the same material as the Instructor Guide, which is then shown after the Training Manual sample, but does not contain the Lesson Plans box which assists the trainer during facilitation.

The Training Manual can be easily updated, edited, or customized to add your business name and company logo or that of your clients. It provides each participant with a copy of the material where they can follow along with the instructor.

No problem can be solved until it is reduced to some simple form. The changing of a vague difficulty into a specific, concrete form is a very essential element in thinking.

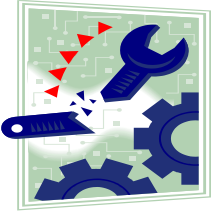
J.P. Morgan

Sample Module: Problem Definition



The next step in the creative problem solving process is to identify the problem. This module will explore why problem solvers need to clearly define the problem. It also introduces several tools to use when defining a problem and writing a problem statement.

Defining the Problem



Defining the problem is the first step in the creative problem solving process. When a problem comes to light, it may not be clear exactly what the problem is. You must understand the problem before you spend time or money implementing a solution.

It is important to take care in defining the problem. The way that you define your problem influences the solution or solutions that are available. Problems often can be defined in many different ways. You must address the true problem when continuing the creative problem solving process in order to achieve a successful solution. You may come up with a terrific solution, but if it is a solution to the wrong problem, it will not be a success.

In some cases, taking action to address a problem before adequately identifying the problem is worse than doing nothing. It can be a difficult task to sort out the symptoms of the problem from the problem itself. However, it is important to identify the underlying problem in order to generate the right solutions. Problem solvers can go down the wrong path with possible solutions if they do not understand the true problem. These possible solutions often only treat the symptoms of the problem, and not the real problem itself.

Four tools to use in defining the problem are:

- Determining where the problem originated
- Defining the present state and the desired state
- Stating and restating the problem
- Analyzing the problem

You may not use all of these tools to help define a problem. Different tools lend themselves to some kinds of problems better than other kinds.

Determining Where the Problem Originated

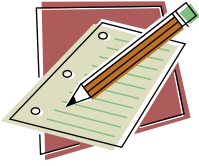
Successful problem solvers get to the root of the problem by interviewing or questioning anyone who might know something useful about the problem. Ask questions about the problem, including questions that:

- Clarify the situation
- Challenge assumptions about the problem
- Determine possible reasons and evidence
- Explore different perspectives concerning the problem
- Ask more about the original question

If you did not define the problem, find out who did. Think about that person's motivations. Challenge their assumptions to dig deeper into the problem.



Defining the Present State and the Desired State



desired state.

When using this tool, you write a statement of the situation as it currently exists. Then you write a statement of where what you would like the situation to look like. The desired state should include concrete details and should not contain any information about possible causes or solutions. Refine the descriptions for each state until the concerns and needs identified in the present state are addressed in the

Stating and Restating the Problem

The problem statement and restatement technique also helps evolve the understanding of the problem. First write a statement of the problem, no matter how vague. Then use various triggers to help identify the true problem. The triggers are:



- Place emphasis on different words in the statement and ask questions about each emphasis.
- Replace one word in the statement with a substitute that explicitly defines the word to reframe the problem.
- Rephrase the statement with positives instead of negatives or negatives instead of positives to obtain an opposite problem.
- Add or change words that indicate quantity or time, such as always, never, sometimes, every, none or some.
- Identify any persuasive or opinionated words in the statement. Replace or eliminate them.
- Try drawing a picture of the problem or writing the problem as an equation.

Analyzing the Problem

When the cause of the problem is not known, such as in troubleshooting operations, you can look at the what, where, who, and extent of the problem to help define it.



What? - “What” questions help to identify the problem. Use “what” questions both to identify what the problem is, as well as what the problem is not. “What” questions can also help identify a possible cause.

Where? - “Where” questions help to locate the problem. Use “where” questions to distinguish the difference between locations where the problem exists and where it does not exist.

When? - “When” questions help discover the timing of the problem. Use “when” questions to distinguish the difference between when the problem occurs and when it does not, or when the problem was first observed and when it was last observed.

Extent? – Questions that explore the magnitude of the problem include:

- How far vs. how localized?
- How many units are affected vs. how many units are not affected?
- How much of something is affected vs. how much is not affected?

Examining the distinctions between what, where, when, and to what extent the problem **is** and what, where, when and to what extent it **is not** can lead to helpful insights about the problem. Remember to sharpen the statements as the problem becomes clearer.

Writing the Problem Statement



Writing an accurate problem statement can help accurately represent the problem. This helps clarify unclear problems. The problem statement may evolve through the use of the four problem definition tools and any additional information gathered about the problem. As the statement becomes more refined, the types and effectiveness of potential solutions are improved.

The problem statement should:

- Include specific details about the problem, including who, what, when, where, and how
- Address the scope of the problem to identify boundaries of what you can reasonably solve

The problem statement should not include:

- Any mention of possible causes
- Any potential solutions

A detailed, clear, and concise problem statement will provide clear-cut goals for focus and direction for coming up with solutions.

Instructor Guide Sample

On the following pages is a sample module from our Instructor Guide. It provides the instructor with a copy of the material and a Lesson Plans box. Each Instructor Guide and Training Manual mirrors each other in terms of the content. They differ in that the Instructor Guide is customized towards the trainer, and Training Manual is customized for the participant.

The key benefit for the trainer is the Lesson Plan box. It provides a standardized set of tools to assist the instructor train that particular lesson. The Lesson Plan box gives an estimated time to complete the lesson, any materials that are needed for the lesson, recommended activities, and additional points to assist in delivering the lessons such as Stories to Share and Delivery Tips.

*No problem can be solved until it is reduced to some simple form.
The changing of a vague difficulty into a specific, concrete form is a very essential element in thinking.*

J.P. Morgan

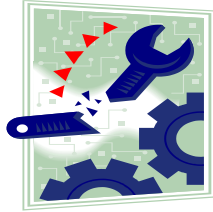
Sample Module: Problem Definition



The next step in the creative problem solving process is to identify the problem. This module will explore why problem solvers need to clearly define the problem. It also introduces several tools to use when defining a problem and writing a problem statement.

Defining the Problem

Estimated Time	10 minutes
Topic Objective	To understand the first step in the creative problem solving process: defining the problem
Topic Summary	Defining the problem properly is important to avoid time consuming or costly steps that will not ultimately provide a good solution to the real problem. The tools of problem definition are introduced.
Stories to Share	A classic story of the issue of problem definition is the case of a high-rise hotel where guests begin complaining that the elevators are too slow. The building manager instructs the engineers to find a way to speed up the elevators. After further review, he refines the problem to address how to install additional elevators. However, he ultimately refines the problem once again. The solution to the real problem is to install mirrors in front of the elevators to distract guests from the wait time. When the problem is defined as the number of complaints being made, the solution turned out to be fairly simple and inexpensive compared to other solutions the building manager considers. After implementing this solution, the hotel complaints stop completely.
Recommended Activity	Have group members share any examples of solving the wrong problem or symptoms instead of the root problem.
Review Questions	Why is it important to define the problem before beginning to look for solutions to the problem?



Defining the problem is the first step in the creative problem solving process. When a problem comes to light, it may not be clear exactly what the problem is. You must understand the problem before you spend time or money implementing a solution.

It is important to take care in defining the problem. The way that you define your problem influences the solution or solutions that are available. Problems often can be defined in many different ways. You must address the true problem when continuing the creative problem solving process in order to achieve a successful solution. You may come up with a terrific solution, but if it is a solution to the wrong problem, it will not be a success.

In some cases, taking action to address a problem before adequately identifying the problem is worse than doing nothing. It can be a difficult task to sort out the symptoms of the problem from the problem itself. However, it is important to identify the underlying problem in order to generate the right solutions. Problem solvers can go down the wrong path with possible solutions if they do not understand the true problem. These possible solutions often only treat the symptoms of the problem, and not the real problem itself.

Four tools to use in defining the problem are:

- Determining where the problem originated
- Defining the present state and the desired state
- Stating and restating the problem
- Analyzing the problem

You may not use all of these tools to help define a problem. Different tools lend themselves to some kinds of problems better than other kinds.

Determining Where the Problem Originated

Estimated Time	5 minutes
Topic Objective	To learn about the problem definition tool of determining where the problem originated.
Topic Summary	Start defining a problem by finding out where the problem originated. Ask questions of people who know about the problem to help clarify it.
Materials Required	<ul style="list-style-type: none">• Worksheet One: Background Information• Module Four Questions from Worksheet
Planning Checklist	Print out one copy of the Worksheet One case study and the Module Four questions for each participant.
Recommended Activity	Divide participants into pairs. Ask them to review the case study and begin determining where the problem came from by identifying who to ask and what questions to ask them.
Delivery Tips	If there is time, bring the large group back together, and discuss results.

Successful problem solvers get to the root of the problem by interviewing or questioning anyone who might know something useful about the problem. Ask questions about the problem, including questions that:

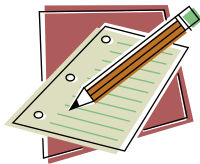
- Clarify the situation
- Challenge assumptions about the problem
- Determine possible reasons and evidence
- Explore different perspectives concerning the problem
- Ask more about the original question



If you did not define the problem, find out who did. Think about that person's motivations. Challenge their assumptions to dig deeper into the problem.

Defining the Present State and the Desired State

Estimated Time	5 minutes
Topic Objective	To learn about the problem definition tool of defining the present state and the desired state.
Topic Summary	Comparing a statement of how things currently exist to a statement of the desired state can help define the true problem.
Materials Required	<ul style="list-style-type: none">• Worksheet One Background Information• Module Four Questions from Worksheet
Planning Checklist	Print out one copy of the Worksheet One case study and the Module Four questions for each participant.
Recommended Activity	Divide participants into pairs. Ask them to review the case study and write statements for the present state and the desired state. Have them refine the statements until the desired state clearly addresses the needs in the present state.
Delivery Tips	If there is time, bring the large group back together, and discuss results.



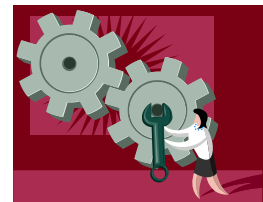
desired state.

When using this tool, you write a statement of the situation as it currently exists. Then you write a statement of where what you would like the situation to look like. The desired state should include concrete details and should not contain any information about possible causes or solutions. Refine the descriptions for each state until the concerns and needs identified in the present state are addressed in the

Stating and Restating the Problem

Estimated Time	5 minutes
Topic Objective	To learn about the problem definition tool of stating and restating the problem.
Topic Summary	This tool involves stating the problem as well as possible, then using different triggers to help refine the statement until it clearly represents the true problem.
Materials Required	<ul style="list-style-type: none">• Worksheet One Background Information• Module Four Questions from Worksheet
Planning Checklist	Print out one copy of the Worksheet One case study and the Module Four questions for each participant.
Recommended Activity	Divide participants into pairs. Ask them to review the case study and write a general problem statement. Have them use the different triggers to explore the problem.
Delivery Tips	If there is time, bring the large group back together, and discuss results.

The problem statement and restatement technique also helps evolve the understanding of the problem. First write a statement of the problem, no matter how vague. Then use various triggers to help identify the true problem. The triggers are:



- Place emphasis on different words in the statement and ask questions about each emphasis.
- Replace one word in the statement with a substitute that explicitly defines the word to reframe the problem.
- Rephrase the statement with positives instead of negatives or negatives instead of positives to obtain an opposite problem.
- Add or change words that indicate quantity or time, such as always, never, sometimes, every, none or some.
- Identify any persuasive or opinionated words in the statement. Replace or eliminate them.
- Try drawing a picture of the problem or writing the problem as an equation.

Analyzing the Problem

Estimated Time	5 minutes
Topic Objective	To learn about the problem definition tool of analyzing the problem.
Topic Summary	This tool helps define the problem by distinguishing the difference between what is and what is not, where the problem is, and where it is not, when the problem is, and when it is not, and to what extent the problem exists, and what extent it does not exist.
Materials Required	<ul style="list-style-type: none">• Worksheet One Background Information• Module Four Questions from Worksheet
Planning Checklist	Print out one copy of the Worksheet One case study and the Module Four questions for each participant.
Recommended Activity	Divide participants into pairs. Ask them to review the case study and fill out the chart to analyze the problem with what, where, when, and extent information.
Delivery Tips	If there is time, bring the large group back together, and discuss results.

When the cause of the problem is not known, such as in troubleshooting operations, you can look at the what, where, who, and extent of the problem to help define it.



What? - “What” questions help to identify the problem. Use “what” questions both to identify what the problem is, as well as what the problem is not. “What” questions can also help identify a possible cause.

Where? - “Where” questions help to locate the problem. Use “where” questions to distinguish the difference between locations where the problem exists and where it does not exist.

When? - “When” questions help discover the timing of the problem. Use “when” questions to distinguish the difference between when the problem occurs and when it does not, or when the problem was first observed and when it was last observed.

Extent? – Questions that explore the magnitude of the problem include:

- How far vs. how localized?
- How many units are affected vs. how many units are not affected?
- How much of something is affected vs. how much is not affected?

Examining the distinctions between what, where, when, and to what extent the problem **is** and what, where, when and to what extent it **is not** can lead to helpful insights about the problem. Remember to sharpen the statements as the problem becomes clearer.

Writing the Problem Statement

Estimated Time	10 minutes
Topic Objective	To understand the purpose and process for writing a problem statement
Topic Summary	Writing an accurate problem statement can help accurately represent the problem. This can help clarify unclear problems. The evolution of the problem statement influences the types and effectiveness of potential solutions that may be generated.
Materials Required	<ul style="list-style-type: none">• Worksheet One Background Information• Module Four Questions from Worksheet• Flip Chart Paper• Markers
Planning Checklist	Print out one copy of the Worksheet One case study and the Module Four questions for each participant.
Recommended Activity	<p>Divide participants into pairs. Ask them to review the case study and finalize the problem statement.</p> <p>Bring the large group back together and write a final problem statement on a sheet of flip chart paper.</p>
Delivery Tips	You will need the group final problem statement for module six.



Writing an accurate problem statement can help accurately represent the problem. This helps clarify unclear problems. The problem statement may evolve through the use of the four problem definition tools and any additional information gathered about the problem. As the statement becomes more refined, the types and effectiveness of potential solutions are improved.

The problem statement should:

- Include specific details about the problem, including who, what, when, where, and how
- Address the scope of the problem to identify boundaries of what you can reasonably solve

The problem statement should not include:

- Any mention of possible causes
- Any potential solutions

A detailed, clear, and concise problem statement will provide clear-cut goals for focus and direction for coming up with solutions.

Activities

During the facilitation of a lesson Worksheet or Handout may be utilized to help present the material. If a lesson calls for a Worksheet or Handout it will be listed in the Lesson Plan box under Materials Required. The trainer can then utilize the Activities folder for the corresponding material and then provide it to the participants. They are all on separate Word documents, and are easily edited and customized.

Below you will see the Worksheets or Handouts that are utilized during the training of the above lesson. They are located in the Activities folder and can be easily printed and edited for the participants.

Sample Worksheet: Background Information

Background

Big City, USA has one of the largest independent school districts in the country. A \$50 million budget shortfall announced early in the school year will require each school in the district to cut their own budgets by 10%.

Sample Worksheet: Module Four Questions

Who do you ask about this problem? What questions do you ask to find out where this problem came from?

Create a present state statement and a desired state statement. Refine the statements until the desired state statement clearly addresses the needs or issues identified in the present state statement.

Now start with a general statement of the problem and refine it until you reach a concrete problem statement.

Analyze the problem using the following chart.

	THE PROBLEM IS...	THE PROBLEM IS NOT...
WHAT		
WHEN		
WHERE		
EXTENT		

Write the final problem statement.

Quick Reference Sheets

Below is an example of our Quick reference Sheets. They are used to provide the participants with a quick way to reference the material after the course has been completed. They can be customized by the trainer to provide the material deemed the most important. They are a way the participants can look back and reference the material at a later date.

They are also very useful as a take-away from the workshop when branded. When a participant leaves with a Quick Reference Sheet it provides a great way to promote future business.

Creative Problem Solving

Identifying Mental Blocks

- **Emotions:** Emotional blocks can include anything from a fear of risk taking to a tendency to judge or approach the problem with a negative attitude.
- **Distractions:** Too much information, irrelevant information, or environmental distractions can prevent a productive brainstorming session.
- **Assumptions:** If problem solvers assume there is only one correct solution, they will be unable to generate additional ideas.
- **Culture:** Culture defines the way we live and limits the ideas we may generate or consider.
- **Communication difficulties:** If we cannot communicate our ideas in some way – speaking, writing, or pictures.



Identifying Resources

This part of the creative problem solving process is the time to think about the resources for making the solution become reality. What else is necessary to put the solution into place?



The types of resources that may be involved are listed below, along with some questions to think about to assign resources to the project of implementing the solution.

- **Time:** How will you schedule the project? When would you like the solution completed? How much time will each task identified take?
- **Personnel:** Who will complete each identified task?
- **Equipment:** Is there any special equipment required to implement the task? Does the equipment exist or need to be obtained?
- **Money:** How much will the solution cost? Where will the money come from?
- **Information:** Is any additional information required to implement the solution? Who will obtain it? How?

Identifying Improvements

- It ensures everyone is aware of the challenges encountered and what was done to resolve them.
- If something is learned from a mistake or failed endeavor, then the effort put into the task is not entirely wasted.
- Participants can apply these lessons to future problems and be more successful.



Certificate of Completion

Every course comes with a Certificate of Completion where the participants can be recognized for completing the course. It provides a record of their attendance and to be recognized for their participation in the workshop.

CERTIFICATE OF COMPLETION

[Name]

Has mastered the course

Creative Problem Solving

Awarded this _____ day of _____, 20____

Presenter Name and Title

PowerPoint Sample

Below you will find the PowerPoint sample. The slides are based on and created from the Training Manual. PowerPoint slides are a great tool to use during the facilitation of the material; they help to focus on the important points of information presented during the training.

Sample Module: Problem Definition

The next step in the creative problem solving process is to identify the problem. This module will explore why problem solvers need to clearly define the problem. It also introduces several tools to use when defining a problem and writing a problem statement.

No problem can be solved until it is reduced to some simple form.

The changing of a vague difficulty into a specific, concrete form is a very essential element in thinking.

J. P. Morgan

Defining the Problem

Four tools to use in defining the problem are:

1. Determining where the problem originated
2. Defining the present state and the desired state
3. Stating and restating the problem
4. Analyzing the problem



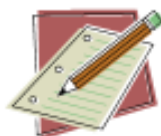
Determining Where the Problem Originated

- Clarify the situation
- Challenge assumptions about the problem
- Determine possible reasons and evidence
- Explore different perspectives concerning the problem
- Ask more about the original question



Defining the Present State and the Desired State

- When using this tool, you write a statement of the situation as it currently exists.
- The desired state should include concrete details and should not contain any information about possible causes or solutions.
- Refine the descriptions for each state until the concerns and needs identified in the present state are addressed in the desired state.



Stating and Restating the Problem

- Place emphasis on different words in the statement and ask questions about each emphasis.
- Replace one word in the statement with a substitute that explicitly defines the word to reframe the problem.
- Rephrase the statement with positives instead of negatives or negatives instead of positives to obtain an opposite problem.
- Add or change words that indicate quantity or time, such as always, never, sometimes, every, none or some.
- Identify any persuasive or opinionated words in the statement. Replace or eliminate them.
- Try drawing a picture of the problem or writing the problem as an equation.



Analyzing the Problem

- **What?** - “What” questions help to identify the problem.
- **Where?** - “Where” questions help to locate the problem.
- **When?** - “When” questions help discover the timing of the problem.
- **Extent?** – Questions that explore the magnitude of the problem.



Writing the Problem Statement

- Include specific details about the problem, including who, what, when, where, and how
- Address the scope of the problem to identify boundaries of what you can reasonably solve
- The problem statement should not include:
 - Any mention of possible causes
 - Any potential solutions



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